



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/658,527	09/10/2003	Anthony Pidcock	84698 2867 KAW	1943

7590

08/18/2005

W. Warren Taltavull
Suite 700
2000 M Street N.W.
Washington, DC 20036

EXAMINER

JIMENEZ, MARC QUEMUEL

ART UNIT	PAPER NUMBER
----------	--------------

3726

DATE MAILED: 08/18/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/658,527

Applicant(s)

PIDCOCK ET AL.

Examiner

Marc Jimenez

Art Unit

3726

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
 - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
 - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
 - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 19-23 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 19-23 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____. |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. **Claims 19 and 20** are rejected under 35 U.S.C. 102(b) as being anticipated by Reynolds (US 4,653,279).

Reynolds teaches a method of manufacturing a wall element **12** for use as part of an inner wall of a gas turbine engine combustor (col. 1, line 20) wall structure including inner **12** and outer **32** walls defining a space therebetween, wherein the method includes the step of casting (col. 3, lines 15-18) a plurality of cooling apertures **30** in the wall element **12**.

Regarding claim 20, investment casting is used (col. 3, lines 15-18).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Art Unit: 3726

4. **Claims 19 and 22** are rejected under 35 U.S.C. 103(a) as being unpatentable over DuBell et al. (US 5,758,503) in view of Fehrenbach et al. (US 6,329,015).

DuBell et al. teach a method of manufacturing a wall element **36** for use as part of an inner wall **12** of a gas turbine engine combustor wall structure (figure 1) including inner **12** and outer **14** walls defining a space therebetween, wherein the method includes casting (col. 4, line 36) the wall **12**. Note that a plurality of cooling apertures **38** are made in the wall element **12**.

However, DuBell et al. do not specifically teach casting the plurality of cooling apertures in the wall element.

Fehrenbach et al. teach a method of forming holes in a combustor wall structure (col. 1, line 18) by casting the holes (col. 4, lines 28-29).

Therefore, it would have been obvious to one of ordinary skill in the art, at the time of the invention, to have provided the invention of DuBell with casting the holes, in light of the teachings of Fehrenbach et al., in order to create symmetrically shaped holes.

Regarding claim 22, DuBell teaches casting a stud **32** including an integrally cast land (see figure 3).

5. **Claim 20** is rejected under 35 U.S.C. 103(a) as being unpatentable over DuBell et al. in view of Fehrenbach et al. as applied to claim 19 above, and further in view of Reynolds (US 4,653,279).

DuBell et al./Fehrenbach et al. teach the invention cited with the exception of the casting being investment casting.

Reynolds teaches investment casting holes in a combustor liner (col. 3, lines 15-18).

Therefore, it would have been obvious to one of ordinary skill in the art, at the time of the invention, to have provided the invention of DuBell et al./Fehrenbach et al. with investment casting, in light of the teachings of Reynolds, in order to utilize a casting technique that accurately forms the desired shape of the part being casted.

6. **Claim 21** is rejected under 35 U.S.C. 103(a) as being unpatentable over DuBell et al. in view of Fehrenbach et al. and Reynolds as applied to claim 20 above, and further in view of Nemoto (US 5,556,742).

DuBell et al./Fehrenbach et al./Reynolds teach the invention cited with the exception of dissolving sprues out of the cast wall element to form the cooling apertures.

Nemoto teaches dissolving sprues out of a cast element (col. 7, lines 4-8).

Therefore, it would have been obvious to one of ordinary skill in the art, at the time of the invention, to have provided the invention of DuBell et al./Fehrenbach et al./Reynolds with dissolving sprues out of the cast wall element to form the cooling apertures, in light of the teachings of Nemoto, in order to symmetrically and accurately form the apertures.

7. **Claim 23** is rejected under 35 U.S.C. 103(a) as being unpatentable over DuBell et al. in view of Fehrenbach et al. as applied to claim 19 above, and further in view of Pidcock et al. (US 6,170,266).

DuBell et al./Fehrenbach et al. teach the invention cited with the exception of laser drilling a plurality of cooling apertures within the wall element.

Pidcock et al. teach laser drilling a plurality of cooling apertures within a wall element

Art Unit: 3726

(col. 4, lines 15-23).

Therefore, it would have been obvious to one of ordinary skill in the art, at the time of the invention, to have provided the invention of DuBell et al./Fehrenbach et al. with laser drilling a plurality of cooling apertures within the wall element, in light of the teachings of Pidcock et al., in order to accurately form the cooling apertures.

8. **Claim 21** is rejected under 35 U.S.C. 103(a) as being unpatentable over Reynolds in view of Nemoto.

Reynolds teaches the invention cited with the exception of dissolving sprues out of the cast wall element to form the cooling apertures.

Nemoto teaches dissolving sprues out of a cast element (col. 7, lines 4-8).

Therefore, it would have been obvious to one of ordinary skill in the art, at the time of the invention, to have provided the invention of Reynolds with dissolving sprues out of the cast wall element to form the cooling apertures, in light of the teachings of Nemoto, in order to symmetrically and accurately form the apertures.

9. **Claim 22** is rejected under 35 U.S.C. 103(a) as being unpatentable over Reynolds in view of DuBell.

Reynolds teaches the invention cited with the exception of casting a stud including an integrally cast land.

DuBell teaches casting a stud **32** including an integrally cast land (see figure 3).

Art Unit: 3726

Therefore, it would have been obvious to one of ordinary skill in the art, at the time of the invention, to have provided the invention of Reynolds with casting a stud including an integrally cast land, in light of the teachings of DuBell, in order to securely fasten the inner wall to the outer wall of the combustor.

10. **Claim 23** is rejected under 35 U.S.C. 103(a) as being unpatentable over Reynolds in view of Pidcock et al.

Reynolds teaches the invention cited with the exception of laser drilling a plurality of cooling apertures within the wall element.

Pidcock et al. teach laser drilling a plurality of cooling apertures within a wall element (col. 4, lines 15-23).

Therefore, it would have been obvious to one of ordinary skill in the art, at the time of the invention, to have provided the invention of Reynolds with laser drilling a plurality of cooling apertures within the wall element, in light of the teachings of Pidcock et al., in order to provide apertures that will help cool the combustor assembly.

Contact Information


11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Marc Jimenez whose telephone number (571) 272-4530. The examiner can normally be reached on Monday-Friday between 5:30 a.m.-2:00 p.m.

Art Unit: 3726

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Peter Vo can be reached on (571) 272-4690. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

MJ
May 25, 2005


MARC JIMENEZ
PRIMARY EXAMINER
5/25/05